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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,506	01/27/2004	Steven Paul Randall	21573.16	2512
27683 7590 05/16/2006		EXAMINER		
HAYNES AND BOONE, LLP 901 MAIN STREET, SUITE 3100			CUEVAS, PEDRO J	
DALLAS, TX 75202			ART UNIT	PAPER NUMBER
,			2834	-
•			DATE MAILED: 05/16/200	6

Please find below and/or attached an Office communication concerning this application or proceeding.

Application No. Applicant(s) Application No. Applicant(s) Examiner Pedro J. Cuevas Pedro J. Cuevas Pedro			<u></u> .				
## Examiner Petro J. Cuevas 2834 ## The MAILING DATE of this communication appears on the cover sheet with the correspondence address − Period for Reply A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION. **Examiner and time may be available under the provisions of 37 C/R 1.136(a). In no event, however, may a reply be timely field **Examiner III of the provision of 37 C/R 1.136(a). In no event, however, may a reply be timely field **Examiner III of the provision of 37 C/R 1.136(a). In no event, however, may a reply be timely field **Examiner III of the provision of 37 C/R 1.136(a). In no event, however, may a reply be timely field or the provision of the provision of 37 C/R 1.136(a). In no event, however, may a reply be timely field or the provision of the above claim(s) is/are allowed. **Examiner III of the provision of			Application No.	Applicant(s)			
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Art Unit: 2834

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see pages 2-9, filed on April 4, 2006, with respect to the rejection(s) of claim(s) 1-27 under U.S.C. § 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of U.S. Patent No. 3,184,628 to H. H. Hammerstrom et al. and newly discovered U.S. Patent No. 4,347,543 A to Frister et al.

Claim Rejections - 35 USC § 103

- 2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 3. Claims 1-9 and 14-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,184,628 to H. H. Hammerstrom et al. in view of U.S. Patent No. 4,347,543 A to Frister et al.
- H. H. Hammerstrom et al. disclose the construction of a variable reluctance polyphase generator comprising:
 - a first part (stator 11) with at least one phase winding (30) and a second part (rotor 12) which is arranged to move relative to the first part to generate electrical power;

means (exciting windings 28_{a-f}) for creating a bias flux linking the at least one phase winding (column 2, lines 32-34); and

a constant current source (20) connected to excite the at least one bias coil.

However, it fails to disclose means for limiting the magnitude of the phase voltage below that otherwise induced in the at least one phase winding by the bias flux.

Frister et al. teach the construction of a rectifier circuit diode array and circuit protector, particularly for automotive use, comprising a zener diode (16) serially connected with the at least one phase winding, for the purpose of preventing the voltage produced by the generator (11) from exceeding the breakdown voltage of the zener diode (column 2, lines 37-46).

It would have been obvious to one skilled in the art at the time the invention was made to have modified the variable reluctance generator disclosed by H. H. Hammerstrom et al. to include an overvoltage protection circuit such as that disclosed by Frister et al. because Hammerstrom et al. states that overvoltages need to be prevented in vehicle generator systems but does not disclose how such protection may be achieved.

- 4. With regards to claims 17, a diode always restricts the flow of current to one direction.
- 5. With regards to claims 1-15, Frister et al. teaches that a method of performing this protection may be done using a zener diode to shunt overvoltages. Further, both references disclose a preference to use fewer parts and providing protection using a single extra element would satisfy this common teaching.
- 6. Claims 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,184,628 to H. H. Hammerstrom et al. in view of U.S. Patent No. 4,347,543 A to Frister et al. as applied to claims 1-9 and 14-23 above, and further in view of U.S. Patent No. 4,835,408 A to Ray et al.
- H. H. Hammerstrom et al. in view of Frister et al. disclose the construction of a variable reluctance generator.

However, it fails to disclose an alternating current source connected to the at least one bias coil.

Ray et al. teach the construction of a power conversion circuit free of active switches comprising:

an alternating current source (11, column 2, lines 45-47) connected to the at least one bias coil (N6, N7); and

a resistive load (R3, R4) connected across each phase winding; for the purpose of providing energy to the bias coils.

It would have been obvious to one skilled in the art at the time the invention was made to use the rectifier circuit diode array and circuit protector disclosed by Ray et al. on the variable reluctance generator disclosed by H. H. Hammerstrom et al. in view of Frister et al. for the purpose of providing energy to the bias coils.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pedro J. Cuevas whose telephone number is (571) 272-2021. The examiner can normally be reached on M-F from 8:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number: 10/765,506

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Page 5

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Pedro J. Cuevas May 9, 2006

> DARREN SCHUBERG SUPERVISORY PATER I EXAMINER TECHNOLOGY CENTER 2800